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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,960	02/05/2004	Kenneth George Hodson	TI-37020	5315
23494	7590	06/09/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			NGUYEN, THINH T	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	

2818

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/772,960	Applicant(s) HODSON, KENNETH GEORGE	
	Examiner Thinh T. Nguyen	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 13-24 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED OFFICE ACTION

1. Applicant's election of claims 13-24 for prosecution of the present Application without traverse in the communication with the Office on 5/23/2005 is acknowledged.

Specification

2. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant cooperation is requested in correcting any errors of which the applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b/e) that form the basis for the rejections under this section made in this office action.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 13,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomura et al. (U.S. Patent 5,628,919) or Grabbe et al. (UK patent Application GB 2325354)

REGARDING CLAIM 13

Tomura discloses (the abstract, fig 8, claim 7) a semiconductor assembly (fig 8 comprising: a IC (fig 8 reference 19) having a plurality of metallic sockets (fig 8 reference 5) arrayed on a mounting surface; a PCB (fig 8 reference 16) having a plurality of metallic projections arrayed on a mounting surface; wherein the PCB and IC are positioned so that a plurality of the sockets adjoin a plurality of the projections; and a plurality of solder joints coupling the IC sockets adjoining the PCB projections.

Similarly , Grabbe (the abstract, fig 2) the IC chip 40 metallic socket 44, metallic projection 52, discloses the same invention.

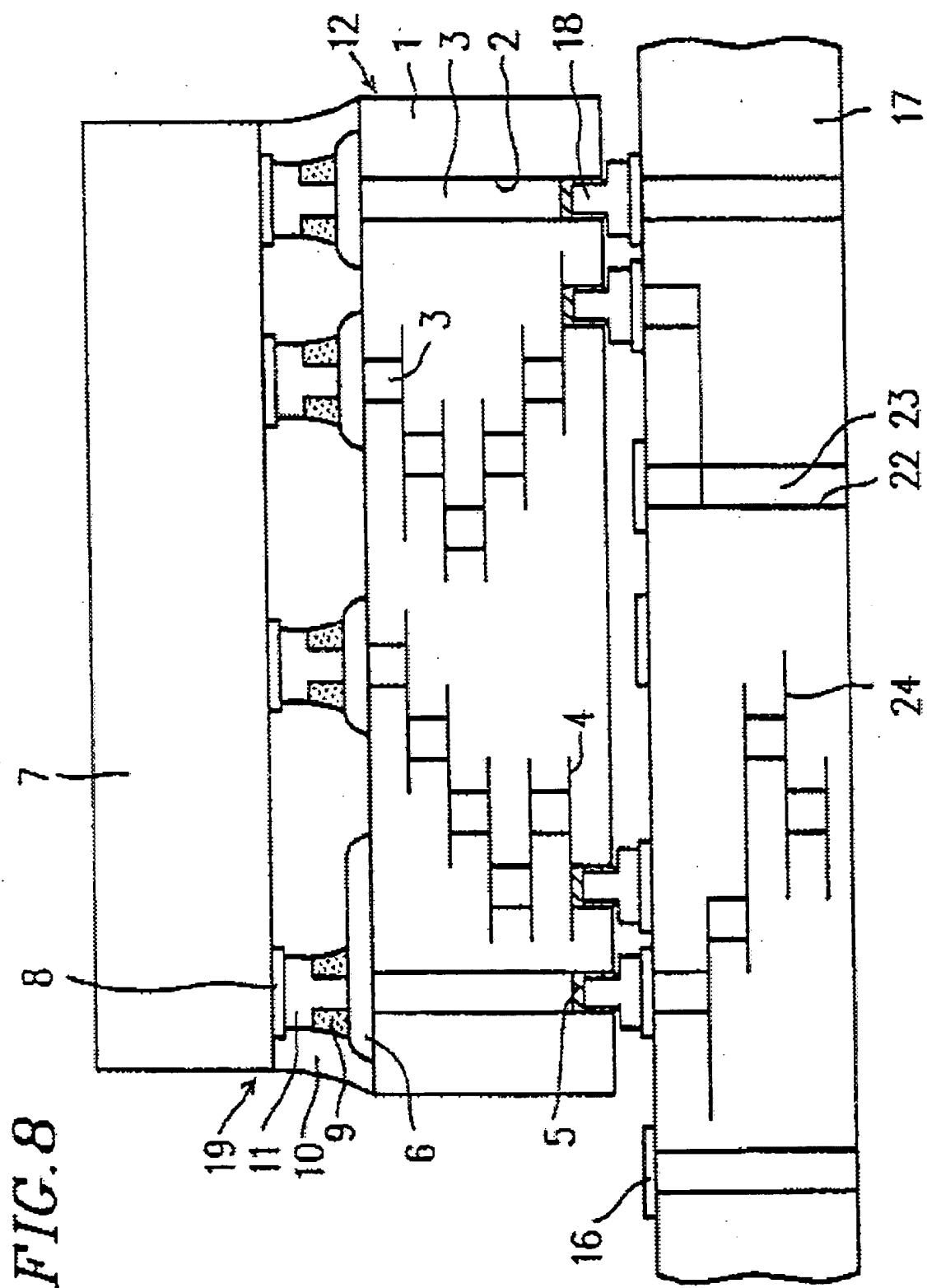
REGARDING CLAIM 14

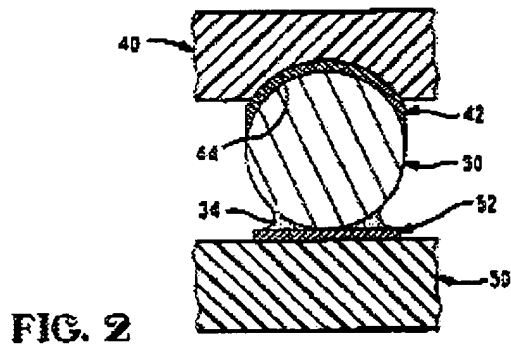
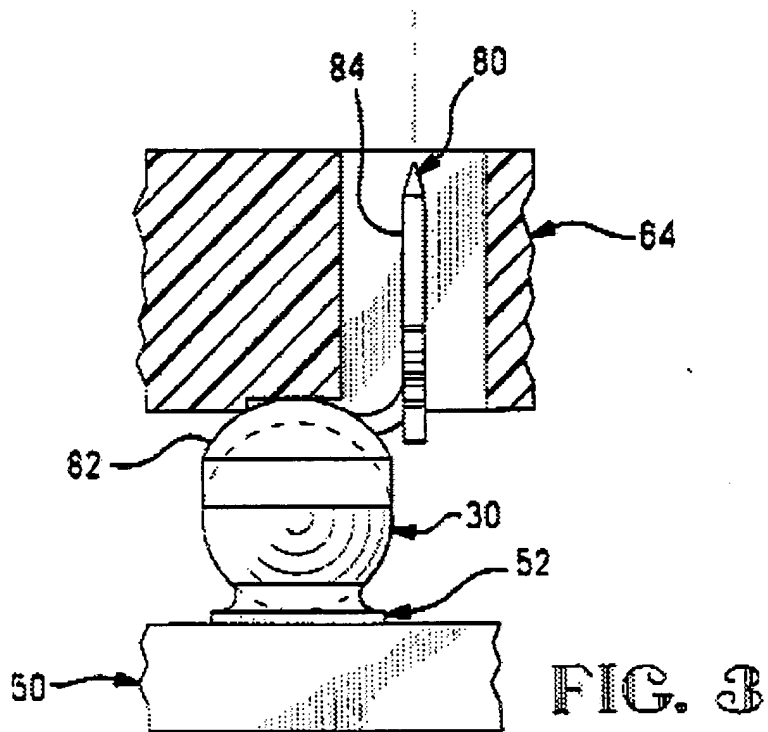
Tomura discloses (the abstract, fig 8) a semiconductor assembly wherein the solder joint are detachable.

Similarly , Grabbe (the abstract, fig 2,fig 3) discloses the same invention.

5. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Grabbe et al. (UK patent Application GB 2325354).

Grabbe (page 4 line 26,27) discloses the use of low melting point solder.





6. Claim 16,17,18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomura et al. (U.S. Patent 5,628,919).

REGARDING CLAIM 16,18

Tomura disclose (in fig 8 , column 10 lines 63-65, in column 11 lines 35-39) that the projection on the PCB (the terminal electrode 18, the electrode pads 16 can be any platable metal and solder) therefore it inherently include high melting solder.

REGARDING CLAIM 17

Tomura discloses (the abstract, fig 8, claim 12) a semiconductor assembly wherein the projections on the mounting surface of the PCB further comprise metallic nodes (fig 8 reference 18) affixed to selected locations on the PCB.

7. Claims 19,20,21 are rejected under 35 U.S.C. 102(b) as being anticipated by Grabbe et al. (UK patent Application GB 2325354).

REGARDING CLAIM 19,20,21

Grabbe discloses (in fig 2, fig 3, pages 1 lines 9) that his invention is for use with Ball Grid Arrays or BGA package.

Claim Rejections - 35 USC § 103

6. The following is a quotation of U.S.C. 103(a) which form the basis for all obviousness rejections set forth in this office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 22, 23, 24 are rejected under 102 (b) as being anticipated by Tomura (US patent 5,628,919) or as an alternative under 35 U.S.C. 103(a) as being obvious over Tomura et al. (U.S. patent 5,628,919).

REGARDING CLAIM 22,23,24

Tomura (in the Abstract, in fig 8) discloses all the inventions of claim 22,23,24 except That his invention can specifically be used in a BGA package. This limitation, however is in the preamble of the claims and therefore has no patentable weight. Moreover, Tomura discloses that his invention use flip-chip (column 3 line 49) and the use flip-chip associated with BGA package has become old and well known in the art.

A person skilled in the art at the time the invention was made would have been able to apply his routine design skill and the disclosure by Tomura and come up with the invention of claims 22,23,24 without any special teachings for the purpose of using an industry-wise standard package.

8. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and the page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to be abandoned (see M.P.E.P. 710.02(b)).

CONCLUSION

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790.

The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached at 571-272-1787.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T. Nguyen



Art Unit 2818



David Nelms
Supervisory Patent Examiner
Technology Center 2800